Project Number	IST-2006-033789
Project Title	Planets
Title of Deliverable	Report on Glossary and PA tool registry
Deliverable Number	D5
Contributing Sub-project and Work-package	PA/3
Deliverable Dissemination Level	External
Deliverable Nature	Report
Contractual Delivery Date	28th February 2009
Actual Delivery Date	10 March 2009
Author(s)	KB

Abstract

This document contains a report on the progress of the Planets Preservation Action tool registry and Planets glossary. The report on the PA tool registry and Planets glossary will provide an overview of the current status of the deliverables, the subsequent steps to be taken, risks that could hinder on time delivery, and consequences of delays for other workpackages.

Keyword list: Progress report, glossary, Preservation Action tool registry

Contributors

Person	Role	Partner	Contribution
Sara van Bussel	Author	KB-NL	Author 2nd iteration
Madelon Hoedt	Author	KB-NL	Author 2nd iteration
Caroline van Wijk	Reviewer	KB-NL	Reviewer 2nd iteration

References

Ref.	Document	Date	Details and Version
	Procedures to populate Planets Glossary	25-10-2007	Contains procedures to populate the Planets glossary.
	Requirements Preservation Action Tool Registry	13-9-2007	Contains functional/non-functional requirements for the PA tool registry. Document version 11.
	Procedures to populate Planets Preservation Action registry	18-10-2007	Contains procedures to populate the PA tool registry.
	Software Requirements Document	October 2008	Contains the requirements for the PA and PC registries (extensions of PRONOM)

EXECUTIVE SUMMARY

This document contains a progress report on the Preservation Action tool registry and Planets glossary. The report will provide an overview of the current status of the deliverables, the subsequent steps to be taken, potential risks that could hinder on time delivery, and consequences of delays for other workpackages. Both the Preservation Action tool registry and Planets glossary are developed using iterations.

The Planets Preservation Action tool registry stores descriptive information about preservation action tools (and services: wrapped tools) and how and for what kind of actions to use them. In the context of the Planets PA tool registry, a preservation action tool is a software program that performs a specific action on a digital object to ensure the continued accessibility of this digital object. This action could result in a transformation of the object or a (re)creation of the technical environment required for rendering the object, or result in a combination of these two.

The first iteration of the PA tool registry has been developed and tested. The first iteration contains a general user interface, an administrator interface and web services for communication with other Planets system parts. The release is available as a download for internal testing.

The writing of user and technical documentation has been started and will be finished after a concurrent PA tool registry and PC registry release – PRONOM 7 – in the near future.

The subsequent and final release of the PA tool registry will be enhanced with requirements gathered from amongst others Plato and Testbed participants. These requirements will ensure compatibility of the registry within the Planets framework.

The final release will be populated with a set of tools wrapped within Planets and available as services.

The Planets glossary aims to provide a continually growing, centralised resource that provides uniformity and clarity in the definition of specific Planets project terms. A centralised clarification and sharing of terms is vital in a project where partners are geographically dispersed and where work is undertaken within many workpackages.

The glossary is now focussed on terms and definitions specific for the Planets project. Terms and definitions from other glossaries have been removed. Preservation Action specific terms and definitions have been gathered from new deliverables and added to the glossary.

All subprojects have been informed of the focus of the glossary and the method for finding terms and definitions that are Planets specific.

The glossary will have references to other related glossaries. The PA/3 workpackage team will gather planets specific terms and definitions if contributions from the Planets subprojects will remain on a low level.

TABLE OF CONTENTS

1. Introduction

1.1 Objective

The objective of this document is twofold. It provides an overview on the status of the Planets Preservation Action tool registry and the Planets glossary. Both deliverables are developed using iterations and this report offers insight into the progress made on the deliverables.

1.2 Scope

The overview on the status of the Planets Preservation Action tool registry and Planets glossary consists of a description of the progress made (current status) and the subsequent actions to be taken for the next iteration.

This document does not contain the requirements for the Preservation Action tool registry nor an overview of glossary content.

The Preservation Action tool registry and glossary population procedures are included in this document in the appendix section.

1.3 Document overview

This report on the Planets glossary and registry is divided in three chapters. The first chapter contains the introduction to the document and the two deliverables described in the report. The second chapter describes the status of the Planets Preservation Action tool registry. The third and final chapter contains the report on the Planets glossary.

2 Report on Preservation Action Tool Registry

2.1 Introduction

This chapter contains a description of the outline for the current and next iteration of the Planets Preservation Action tool registry, the achievements so far and planned actions before the next iteration. The last paragraph in this chapter presents an overview of dependencies and risks concerning the registry.

2.2 Background

The Planets Preservation Action registry stores descriptive information about preservation action tools (and services: wrapped tools) and how and for what kind of actions to apply them. In the context of the Planets PA tool registry, a preservation action tool is a software program that performs a specific action on a digital object to ensure the continued accessibility of this digital object. This action could result in a transformation of the object or a (re)creation of the technical environment required for rendering the object, or result in a combination of these two. Tools for objects modify a digital object in order to keep it accessible. Tools for environments change the technical environment in such a way that the original object can be accessed.
The way tools and services can be applied is described in a *pathway*. A *pathway* is a predefined set of one or more preservation actions (action on an object or action on an environment of the object) operating on a specific input file format and version and resulting in a specified output format or target environment. An example of a pathway is:

ImageMagick used for converting a TIFF 6.0 image to a JPEG image.

The ImageMagick program itself can convert between many different file formats. A pathway describes a specific application (in the case of migration format X to format Y) of a software program such as ImageMagick.

The PA tool registry is part of the Planets network of digital preservation services. The Planets Preservation Planning tool (Plato) will make use of the Preservation Action tool registry for the planning and execution of preservation action plans. Next to the role within the Planets services network, the PA tool registry will also serve as a source of information on preservation action tools for general users such as employees from institutions that are concerned with digital preservation. The PA tool registry is complemented by the Testbed services registry, which contains the actual information on how to invoke a Planets service.

2.3 Current status

As was described in the previous iteration of this progress report, the decision has been made to develop the Planets PA tool registry as an extension of Pronom 6.2. Development of the PA tool registry has led to Pronom 7, which also includes the Planets Preservation Characterisation registry.

KB and Tessella have combined the requirements for a PA tool registry - drawn up by KB and TNA – with the PC registry requirements and the legacy of Pronom 6.2 into a Software Requirements Document (SRD)[1]. This document has been the basis for development of Pronom 7 by Tessella.

Although development on Pronom 7 started in SEAM on .NET, the decision was made in October 2008 to move development to Spring MVC on a Java-based environment. Although the change in technology has had a negative effect on the planning, it has ensured smooth integration with the

[1] The Software Requirements Document can be found on the wiki at http://www.planets.arts.gla.ac.uk/private/pages/wiki/index.php/Image:PRONOM_7_SRD_V1R1M2_DRAFT.pdf

Planets infrastructure for the long term. Pronom 7 can now be deployed in the same application environment as the Planets Integration Framework, Testbed and Plato.

The KB PA/3 workpackage members monitored the development progress through a weekly management call and a weekly developers and testers call. To help lighten the strain on Tessella resources, KB took over (user) testing for the preservation action functionality of the registry. In practise this meant that KB tested the user interface, general usage and specific PA actions (web services, administrator actions) weekly. Actions and functions specific to the preservation characterisation functionality of the registry will be tested by TNA as part of the PC/3 workpackage.

The current release of the PA tool registry includes an administrator/user interface and web services for system users (e.g. Plato). The administrator interface includes detailed records for file formats and software, as well as several subsidiary entities such as preservation action pathways. The release is available in the form of a downloadable package that can be installed locally.

During development, it became clear that the available resources and time for development were not sufficient to develop all requirements defined in the SRD. The currently developed administrator interface serves the administrator as well as the general user. A login prompt separates the two functions. Other requirements that have not developed include specific layout requirements, audit trailing and other advanced administrator functionality.

Integration with other Planets system parts, such as the Testbed and Plato, is important for the functionality of the Preservation Action tool registry. To ensure a smooth integration, a programmers workshop was organised on February 5th with participants from IF, TB, PP and PA. Communication among the different system parts will partly take place using web services. The web services that are available in the current release were discussed. Additional necessary web services have been defined since. The roles and relations for the PA tool registry and the other Planets system parts are depicted in Figure 1.

The first iteration procedures for the population of the registry (included in Appendix B2) will be updated with current population experiences. The population procedures describe the actions that must be taken by an administrator to enter new software, tools or pathways in the registry. It also includes forms that can be sent to suppliers of tools to gather required information.

A separate procedure explaining the information flows and responsibilities among the Planets system parts when registering a new tool is being written.

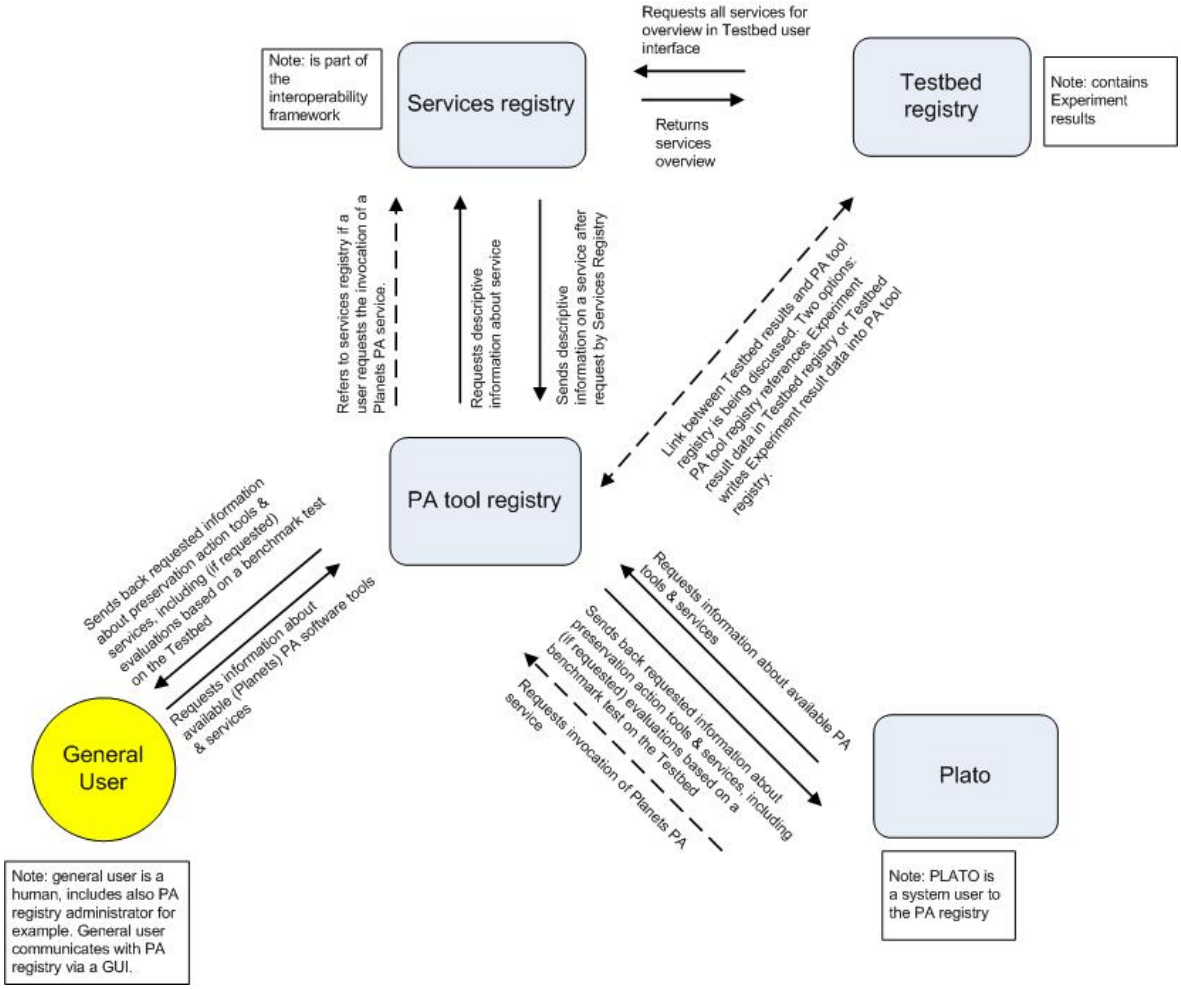

Figure 1 Roles and relations for PA tool registry

The arrows represent relations among the Planets system parts. Dotted arrows represent relations that have not been specified on how to implement them yet (e.g. XML exchange, direct programming on database).

Table 1 Overview Deliverable Iterations Registry and Milestone

Deliverable & Milestone	Planned delivery	Actual delivery	Status	Reasons for delay
PA/3-D3, PA tool registry	M28	M32	PA tool registry release available within Planets project. Official PRONOM 7 release date – concurrent PA tool registry and PC registry releases – is planned for M33.	All items below are related to PA/3-D3, -D6, -D7, M3: - Tight development schedule and development resources new to the project; - Change of technology: decision with benefits for the long term.
PA/3-D6, Technical documentation	M30		The writing of the documentation has started and will be finished after the official PRONOM 7 release.	
PA/3-D7, User documentation	M30		The writing of the documentation has started and will be finished after the official PRONOM release.	

PA/3-M3, Populating the registry for operational use	M31		Plans for populating the registry have been made. Specific tools have been selected. Population will start as soon as PRONOM 7 is released for general use within Planets.	
PA/3-D5, PA tool status report	M33		Report has been written.	N.a.
PA/3-D3, PA tool registry 2nd and final iteration	M35		Gathering of requirements has started.	N.a.
PA/3-D4, Procedures to populate the registry	M35		Revision of previous procedures has begun.	N.a.

2.4 Next steps

In this paragraph, the subsequent activities to meet the outline of the next iteration of PA tool registry are described.

The second and final release of the PA tool registry will be made available on the Gforge website of Planets. Input will be gathered from Planets users (notably Testbed and Plato) for new requirements for this iteration. Also, the current SRD will be analyzed for requirements not yet implemented. All requirements will be assigned a priority in the new requirements document. KB will compile this document in conjunction with Tessella and TNA.

Technical and user documentation will be written for the current release and validated by other Planets partners and external parties. Comments on the documentation will be gathered and processed in the documentation periodically (final releases due in subsequent project year).

The registry will be populated for internal use in the coming weeks. This will also enable extensive testing of the registry. Priority in registration of tools will be given to tools that have been wrapped by Planets and the tools that are still waiting to be wrapped.

The second and final iteration of the Preservation Action tool registry will include:

- Implemented Planets wide functional and technical requirements (e.g. Testbed, Plato). Implementation of requirements is subject to prioritisation done by PA/3 workpackage (KB, Tessella);
- The registry is populated with descriptive information on tools & services for internal and external testing purposes;
- PA tool registry is compatible with the Preservation Planning tool and Testbed.

2.5 Risks and Dependencies

This paragraph contains an overview of the risks for on time delivery of the registry and of the issues for other workpackages if the registry deliverables will be delayed. The dependencies overview (Table 2) lists the consequences of delay in the development of the registry for other workpackages.

Table 2 Risks registry

Number	Probability[2]	Impact[3]	Brief description of risk and risk response	Decision[4]
1	V	H	Deadline for development of the final iteration may not be met. Lack of development resources has caused a delay in the development of the PA tool registry in the past. The deadline for the first iteration has not been met. There is already an indication that the deadline for the second iteration will not be met. Notify the Project Manager and workpackages that depend on the PA tool registry regularly of the progress made. Maintain intensive cooperation between KB and Tessella to minimize miscommunications and ensure effective distribution of activities.	A, R
2	V	M	The procedures and documentation will not be fully written and tested before the deadline of the next iteration, due to a delay in development of the registry. Notify users depending on the procedures and documentation. Monitor development and try to work 'ahead' of official development releases.	A, R

Dependencies

The Preservation Action tool registry will be used by the Preservation Planning tool to perform preservation plan executions. Delays in development of the PA tool registry will affect testing possibilities of Plato. The people working on Plato have been and will be notified of the status of the registry regularly. They will also be included in the further development of web services for the communication between Plato and the registry.

The Preservation Action tool registry and the Testbed will have to have a compatible interface to use the Testbed Experiment Data. Testbed workpackage involved have been and will be notified of the status of the registry regularly. Requirements for compatibility will be gathered from these workpackage as well.

[2] V=Very probable, P=probable, N=Not probable

[3] H=High, M=Middle, L=Low

[4] A=Accept, P=Prevent, R=Reduce, T=Transfer, C=Contingency

3 Report on Planets Glossary

3.1 Introduction

This chapter contains a brief description of the background of the Planets glossary, the achievements so far, points of interest for other workpackages, and planned actions before the next iteration. The last paragraph in this chapter presents an overview of the risks for on time delivery of the subsequent Planets glossary iteration.

3.2 Background

The preservation action sub-project is responsible for the development and availability of preservation action tools and services in the Planets project. Workpackage PA/3 is responsible for development of a preservation action tool registry that facilitates the availability of preservation action tools and services. The DoW describes a PA tool registry glossary as another deliverable by workpackage PA/3.

At the start of the project, the Science Board decided that the glossary should be on project level instead of workpackage level. The PA/3 workpackage is now responsible for initiation of a glossary on project level and the creation of procedures and roles to guide the population of the glossary. All sub-projects are responsible for population of the Planets glossary with terms and definitions.

The Planets glossary aims to provide a continually growing centralised resource that provides uniformity and clarity in the definition of terms across the project. A centralised clarification and sharing of terms is vital in a project where partners are geographically dispersed and where work is undertaken within specific workpackages.

The glossary will be populated during the project. Therefore, the glossary deliverable D1 is developed using iterations. The glossary and procedures for populating the glossary will be evaluated regularly.

3.3 Current status

The Planets glossary has been made available on the wiki for all Planets partners and facilitates the population of terms and definitions.[5] Procedures for populating the registry are also available and have now reached the third version.[6] The procedures will prevent a proliferation of Planets glossary terms and definitions and will provide a constructive means of dealing with disagreement about terms and definitions. The procedures also contain a description of roles and responsibilities for the organisation of the glossary.

Each sub-project has appointed a glossary coordinator that will be the main contact for the glossary maintainers. The coordinator will also ‘adopt’ terms for their sub-project and monitor discussions on terms and definition. The glossary maintainers and coordinators have been appointed. A glossary working group has been appointed to be the ‘referee’ in the rare cases that no consensus can be reached on sub-project level. The Project Director will be part of the working group for the final wording of the definition.

Glossary maintainer	Madelon Hoedt
Back-Up glossary maintainer	Lynne Montague
Back-Up glossary maintainer	Caroline van Wijk
Glossary working group member 1	Project manager
Glossary working group member 2	SB member, Christen Hedegaard

[5] http://www.planets-project.eu/private/pages/wiki/index.php/Glossary

[6] See Appendix A.1 or http://www.planets-project.eu/private/planets-ftp/WP_PA/PA3/Glossary_Procedures_Deliverable-v1.3.pdf

Project director, chair of the TCC	SB member, Adam Farquhar
Glossary coordinator Preservation Planning	SP lead, Hans Hofman
Glossary coordinator Preservation Action	SP lead, Frank Houtman
Glossary coordinator Preservation Characterisation	SP lead, Tim Gollins, to be confirmed
Glossary coordinator Interoperability Framework	SP lead, Ross King
Glossary coordinator Testbed	SP lead, Max Kaiser
Glossary coordinator Dissemination and Training	SP lead, Jane Humphreys

The glossary Wiki has seen a revision. The aim of the glossary is now to supply a list of terms that are specific to the Planets project, or have a specific meaning within the Planets framework. This means that a number of terms related to digital preservation in a more general sense have been removed from the Wiki.

Emails regarding the supplying of terms by Planets partners have been sent to the sub-project leads. However, little to no response was received. So far, only the terms supplied by the PA sub-project have been successfully incorporated into the glossary Wiki.

Because of the limited response to the emailed request for terms, the PA/3 workpackage has decided to change the approach to gain the required terms. Instead of asking the sub-project leads to supply the workpackage with information, PA/3 intends to browse through the main deliverables of each sub-project and to draw up a list of terms based on the reports, together with preliminary definitions. These lists will then be sent to the sub-project leads for internal discussion and approval.

This effort has been planned, but not yet carried out, due to the demand placed on the resources by the tasks related to the PA tool Registry.

Table 3 Overview Milestone and Deliverable Iterations Glossary

Deliverable & Milestone	Planned delivery	Status
PA/3-D1; M4, Final release Planets glossary	M42	Ongoing
PA/3-D2, Procedures to populate glossary	M28	Available on the wiki
PA/3-M5, Evaluation of glossary population	M34	Partly started

3.4 Next steps

In this paragraph, the subsequent activities to meet the outline of the next iteration of glossary are described.

As stated above, the approach to the way in which glossary terms are obtained has changed. Members of the PA/3 workpackage will browse through the deliverables of the different sub-projects and draw up lists of terms and preliminary definitions based on their findings. These lists will then be sent to the sub-project leads for approval.

Since this approach will put a bigger strain on the PA/3 resources, work on the glossary has been slightly delayed. This delay is also related to the amount of work done by PA/3 in regard to the PA tool Registry.

3.5 Risks and Dependencies

This paragraph contains an overview of the risks for on time delivery of the glossary and of the dependencies for other workpackages if the glossary deliverables will be delayed.

Table 4 Risks glossary

Number	Probability[7]	Impact[8]	Brief description of risk and risk response	Decision[9]
1	V	H	The priority of adding terms & definitions and discussion about definitions may not be of a high priority to the subprojects. Population of the glossary involves investment of time and effort from all partners besides their usual workpackage and sub project activities. Involve the Project Manager to emphasize the importance of a glossary for the project. The glossary maintainer will be active in addressing sub-project coordinators to 'own' terms & definitions. PA/3 workpackage resources will be used for gathering Planets specific terms from all sub-project deliverables.	A, R

Dependencies

The Planets glossary should facilitate working in a project with participants from different types of institutions in several countries in Europe. However, delay in development of the glossary or its procedures will not affect the planning of other Planets workpackages directly.

[7] V=Very probable, P=probable, N=Not probable

[8] H=High, M=Middle, L=Low

[9] A=Accept, P=Prevent, R=Reduce, T=Transfer, C=Contingency

Appendix A.1 Procedures for Populating the Planets Glossary

A.1.1 Introduction and purpose

This document contains the procedures for populating the Planets glossary. The Glossary is being set up as a point of reference for terms which are specific to the Planets preservation approach, or are in general use but have a meaning specific to the Planets project. By populating the Glossary with such terms, it is hoped that it will be used as a continually growing, centralised resource that provides uniformity and clarity in the definition of terms across the project. A centralised clarification and sharing of terms is vital in a project where partners are geographically dispersed and where work is undertaken within specific workpackages. The aim is to reduce the risk that terms may be used differently within different parts of the project, thus causing confusion, and to provide a tool to aid understanding across the project. It is essential that all Planets participants take a role in a) assessing which terms should be included in the Glossary and b) actively adding terms to the Glossary in order to make it a comprehensive resource.

The purpose of the level of detail within the procedures is to prevent a proliferation of Planets glossary terms and definitions on the Wiki, to ensure that relevant terms have only one Planets-wide definition and to provide a constructive means to deal with disagreement about terms and definitions among the Planets partners.

A.1.2 Suggest New Term

Any PLANETS participant can suggest a new Glossary term. They should add the term to the main Glossary page, under the correct letter, as an internal link. On the linked Definition Page, which will be where the finalised definition of the term is put (as is done currently), the person proposing the term should state who they are and which sub-project they feel is most relevant to take ownership of the term i.e. to provide a definition and participate in any discussions about the definition.

In addition, the Glossary Maintainer (see below) may suggest, through monitoring of new deliverables, that a term or terms need to be defined, to add the terms to the Glossary and to contact the relevant sub-projects to take ownership of the term. The Glossary Coordinator for each sub-project should also take a role in the monitoring of new deliverables and the adding of relevant terms to the Glossary.

There would be a Glossary Procedures Page, linked from the main Glossary page with instructions for the procedure on suggesting terms.

It is suggested that the leader of each sub-project should nominate a Glossary Coordinator to take responsibility for all Glossary tasks related to that sub-project. The Glossary Maintainer will email the relevant Glossary Coordinator when their sub-project has been suggested as an owner for a new term. They will be told that their sub-project has been suggested as owner of the term, asked if they feel it is appropriate for their sub-project to be owner of the term and asked if they think the term should be included in the Glossary at all. If they agree to be owner of the term, they will be asked to propose an initial definition of the term or explain why they think the term should not be in the Glossary at all. They should add this definition or explanation to the Definition Page for that term on the Wiki. They will be told that the proposed definition (or lack of definition in cases where they suggest the term isn't relevant) will be open for a period of discussion which they should participate in.

A.1.3 Scope

As to the scope of terms to be defined it should be any terms that are specific to the Planets digital preservation approach, or terms that are in general use but have a specific meaning in the Planets context.

The PREMIS or OAIS glossary definitions (or any other available digital preservation glossary definitions) could be used as a guide to an initial definition in the absence of a more relevant PLANETS definition, but not all terms will be covered or relevantly defined for the purposes of PLANETS by these glossaries. If any definitions are adopted as the PLANETS definition from other glossaries, the person adding them to the Glossary should suitably reference them.

The aim should be to come up with consensus on one definition that is relevant PLANETS-wide, rather than having two or three differing definitions. The Glossary will be a tool to aid understanding within the project. It cannot be guaranteed that it will be a comprehensive resource of all relevant terms as much of its population will be dependent on the active participation of planets participants.

A.1.4 Period of Discussion

All new suggested terms, with definitions, should be open to a period of discussion by any interested PLANETS participants. However, the relevant sub-project Glossary Coordinator should email the members of their sub-project to alert them to the fact that a new term has been suggested, that their sub-project is the owner and that they should participate in discussions if interested. Discussions should take place by clicking on the Discussion Tab on the Definition Page for the term in question, NOT on the Definition Page itself. Anyone adding to the Discussion Pages should include their name.

This period of discussion should also be used in cases where a term is suggested but the relevant Glossary Coordinator does not think it is necessary to include the term in the Glossary.

The period of initial discussion should last a finite period of time. An initial suggestion is two weeks from the date the initial definition is provided by the relevant Glossary Coordinator. In this way, terms can be finalised in the glossary in a relatively short period of time.

A.1.5 Finalisation of Terms

At the end of the two-week period of discussion, the Glossary Maintainer should send an email to prompt the relevant Glossary Coordinator to make a decision about whether they wish to keep their initial proposed definition of the term, whether they still maintain that the term is not necessary, or whether, in light of the discussions, they wish to alter the definition (or propose a definition where they previously thought it was unnecessary to include a term). The Glossary Coordinator should update the Definition Page of the Wiki accordingly.

At this stage there are three possible next stages of action:

1. If the Glossary Coordinator does not wish to change the original definition and there has either been no discussion about the definition, or agreement has been reached on this definition, the decision of the Glossary Coordinator will be seen as absolute, the term can be regarded as finalised on the Glossary and the term will be closed to discussion.

   Where the Glossary Coordinator still believes that inclusion of the term is unnecessary and there has been no discussion during the 2-week period disagreeing with this, again the decision of the Glossary Coordinator will be seen as absolute and the term can be removed from the Glossary.

2. If the Glossary Coordinator does not wish to change the original definition (or still believes that the inclusion of a term is unnecessary) but there has been discussion about it and consensus cannot be reached, the term should be referred to the Glossary Working Group (see procedures set out below).

3. If, in light of discussions, the Glossary Coordinator wishes to change the original definition, or wishes to now propose a definition when previously they wanted to remove the term from the Glossary, they should adjust the Definition Page for the term on the Wiki as necessary and leave the term for another set final discussion period,

e.g. a week. During this time, further comments can be made on the Discussion Page for that term based on the revision.

If there is no further discussion on the definition during this week then the term can be regarded as finalised on the Glossary. However, if a particular term is still contentious and consensus isn't reached, the term should be referred to the Glossary Working Group (see procedures set out below).

Where consensus is not reached during procedures 2 or 3, it is proposed that the Glossary Maintainer refer the issue, by email, to two or three members of the Scientific Board, who are appointed to make up a standing Glossary Working Group, to make a final decision (see Issues section below). These members of the Glossary Working Group should liaise with each other and the Glossary Maintainer to indicate which definition they think is appropriate. The Glossary Maintainer can then ensure that the finalised definition is entered on the relevant Definition Page of the Wiki.

NB. Terms should only be referred for the Glossary Working Group's approval if the term cannot be agreed on the discussion page within the time limits. The Glossary Working Group's decision should be final.

A.1.6 Existing Terms on the Current Glossary

Many of the terms on the existing Glossary don't have a definition, or finalised definition, attached. Others have two, three or four different definitions. Additional procedures need to be put in place to define what happens to these terms. TNA have put together a list of proposed term owners for current terms by sub-project. The terms should be kept in the current Glossary and as with suggesting new terms, the Glossary Coordinator for the sub-project who owns the term should be asked to decide on one finalised definition.
If there is later debate about the finalised definition for any current term, the procedures set up for Iterations, Updates and Review (see 9 below) should be followed.

A.1.7 Quality of Terms

Depending on whether a term is in dispute or not, either the Glossary Coordinator for the sub-project who owns the term, or the Glossary Working Group would set the quality of the finalised definitions.

A.1.8 Population

Following the processes above, suggested new terms would be entered onto the main Glossary page, under the relevant letter, by the PLANETS participant or the Glossary Maintainer suggesting them. The Glossary Coordinator for the sub-project that owns the term would enter definitions of terms onto the Glossary. The Glossary Maintainer would take responsibility for all other information needed to populate the Glossary (see below for detailed description of the role of Glossary Maintainer).

A.1.9 Iterations, Updates and Review

It would make sense that as the project progresses, so the Glossary will need to be added to and the process for suggesting and adding new words is ongoing.

There may be times when definitions of terms on the Glossary need updating, changing or adding to. Similar procedures as for suggesting a new term could be followed. The person suggesting the change would do so on the Discussion Page for the term in question, putting a new definition and/or reasoning for the need for change. Glossary Coordinators should set up 'watch' alerts when they first take ownership of a term, to notify them of any changes on the Discussion Page for that

term. However, changes would also have to be monitored by the Glossary Maintainer as a back-up to make sure the relevant Glossary Coordinator is aware of the discussion.

The procedure from here would be the same as when suggesting a new term in that the Glossary Coordinator from the sub-project who owns the term would be notified and there would be a two-week period of discussion. The same procedures as set out in point 4 above would then be followed.

NB. The discussion periods involved in initially suggesting a new term should be the time when changes are made and debate about a definition occurs. Therefore the need to change a finalised definition should be unusual and only initiated when strong reasons for a change are present.

A.1.10 Maintenance

The Glossary Maintainer would be responsible for any populating activities not covered by the above procedures and would also take responsibility for the ongoing maintenance and procedural aspects involved with establishing the Glossary as set out below.

A.2 Key Roles in Populating the Planets Glossary

A.2.1 The Role of Glossary Maintainer

The person in the role of Glossary Maintainer would be responsible for both the population and maintenance aspects of the Glossary, as set out above.

There would need to be a second person nominated to fulfil Glossary tasks if the primary Glossary Maintainer is ill for an extended period, on holiday or otherwise absent from the office (see Issues section below).

To summarise, the person undertaking the Glossary Maintainer role would need to:

- Make the necessary changes to put the new procedures in place, including:
    - Set up a link from the current Glossary main page to a Glossary Procedures Page setting out clear instructions about populating the Glossary;
    - Compose an initial email to all PLANETS participants, informing them that new procedures have been put in place and letting them know that their relevant sub-project Glossary Coordinator will let them know when their sub-project has taken ownership of a new term in order that they can participate in discussions if interested (see Issues below as to who should send out this email);
    - Ask sub-project leaders to nominate Glossary Coordinators (one Glossary Coordinator per sub-project) from within their sub-project and list these on the main Glossary page for reference;
    - Contact proposed owners for existing Glossary terms (as suggested by TNA);

- Set up ‘Watch’ alerts for, and monitor, the Glossary, Definition Pages and Discussion Pages in order to see when new terms are added or discussed;
- Add a note on each Definition Page as to which sub-project owns the term;
- Put messages on the Definition Pages for proposed glossary terms stating when the initial and final discussion periods are due to end and have ended for each proposed term;
- Put messages on the Definition Pages for proposed glossary terms stating if a term has been referred to the Glossary Working Group for approval;
- Alert Glossary Coordinators by email that they have been proposed as owners of terms;
- Alert Glossary Coordinators by email when they need to state their preferred term definition if discussion on that term has been taking place;

- Alert Glossary Coordinators by email if discussion begins on a previously agreed term that they own (i.e. if at some stage after a term has been agreed, someone wishes to change a definition);
- Email parties who are disputing a term definition to see if consensus can be reached within the time limits;
- Forward details of terms in dispute to Glossary Working Group members;
- Enter any changes made by the Glossary Working Group members to a term in dispute to the relevant Definition Page;
- Make sure that terms are cross-referenced where relevant;
- Monitor the appearance of new deliverables and contact Glossary Coordinators within relevant sub-projects to suggest new Glossary terms where appropriate;
- Send out refresher emails to remind people of the ongoing Glossary project;
- Undertake any additional tasks that become apparent during the setting up, development and ongoing maintenance of the Glossary; and
- Provide a quality control function in terms of grammar, spelling and language used in the definitions as well as maintaining consistency in how the definition pages are set out visually.

A.2 The Role of Glossary Coordinator

There should be one Glossary Coordinator for each sub-project, to be nominated by the sub-project leader. The sub-project leader can designate themselves as Glossary Coordinator if appropriate. A list of Glossary Coordinators for the 6 sub-projects will be put on the main Glossary page. When new terms or term changes are suggested, the Glossary Coordinator will need to undertake the following:

- Agree that their sub-project should be the owner of the term or suggest an alternative sub-project to be owner;
- Propose and add to the Wiki an initial definition on the Definition Page for the term or a reason why they think the term should not be included, as soon as possible after a term is suggested on the Glossary;
- Set up ‘watch’ alerts on the Definition Pages for the terms they own to notify them of any changes:
- Email the members of their sub-project to alert them to the fact that a new term has been suggested, that their sub-project is the owner and that they should participate in discussions if interested;
- Monitor and contribute to any discussion that takes place on the relevant Discussion Tab regarding the definition in the two weeks after the term is proposed;
- Two weeks after suggesting a term definition on the relevant Definition Page, they will need to decide on whether they feel this is still the appropriate definition, based on the discussions that have taken place. If they wish to change the initial proposed definition, they will need to update the Definition Page with the appropriate revised definition;
- Monitor and contribute to any further debate or discussion that takes place on the Discussion Tab for a further week, after they have changed the definition on the Definition Page;
- Update the Definition Page with the appropriate definition after the final, further week of discussion if consensus is met and the definition is altered; and
- Monitor the new deliverables of their sub-project and add relevant new terms to the Glossary.

A.3 The Role of Glossary Working Group

This should be a standing committee made up of two or three members of the Scientific Board (see Issues below), whose role it is to act as a last line of decision-making in cases where consensus cannot be reached on the definition of a term. On receipt of email details about disputed term definitions they would need to:

- Liaise with other Glossary Working Group members in order to come up with a final PLANETS-wide definition;

- Communicate this finalised decision to the Glossary Maintainer.

Appendix B.1 Procedures for Registration of Preservation Action Tools and Pathways with the PA Registry

Note: This appendix contains the first iteration of the procedures for registration of PA tools. A second iteration is being written. Changes compared to the first iteration of procedures will be:

- The workflow for registration of a new tool to the PA Tool registry will depend heavily on the local or central availability of the PA Tool registry. New procedures for registration will be based on either a local or central instance. The first iteration of procedures was based on central availability;
- The order of steps to go through for registration of a tool in the PA Tool registry will differ from the first iteration of procedures. Example given: registration of new suggested tools will be executed before testing on the Testbed takes place in contrast with the order of these steps in the first version of the procedures.
- The wrapping of tools – if still necessary - will be part of the workflow for registration of new PA tools.

B.1.1 Introduction Preservation Action Registry and Purpose Procedures

The preservation action registry will store information about preservation action tools and how and for what kind of actions to use them. What exactly is considered a preservation action tool? In the context of the Planets registry, a preservation action tool is a software program that performs a specific action on a digital object to ensure the continued accessibility of this digital object. This action could result in a transformation of the object or a (re)creation of the technical environment required for rendering the object, or result in a combination of these two. Tools for objects modify a digital object in order to keep it accessible. Tools for environments change the technical environment in such a way that the original object can be accessed.

A pathway is a predefined set of one or more preservation actions (actions on objects or actions on environments) operating on a specific input file format and version and possibly (in the case of an 'actions on objects' tool) resulting in a specified output format. A pathway can include at least one, but possibly more preservation actions (and thus require at least one, but possibly more tools). An example of a pathway is:

> ImageMagick used for converting a TIFF 6.0 image to a JPEG image. The ImageMagick program itself can convert between lots of different file formats. For a pathway, it is not the PA Tool that is described, but the PA tool being put to a specific use.

In addition, tools are divided into 'services' and 'non-Planets services or applications' in the PA Registry, in order to make a distinction between tools that can be directly invoked from within the Planets framework – a Planets service – and tools that are described in the tools registry, but are only available as downloadable software.

The PA Registry is part of the Planets digital preservation services. The Planets Preservation Planning tool (Plato) will make use of the preservation action registry for the planning and execution of preservation action plans.

Next to the role within the Planets services network, the PA Registry will also serve as a source of information on preservation action tools for general users such as employees from institutions that are concerned with digital preservation.

The information about preservation action tools that the registry will provide consists of:

- Information about the tool (information about the creator of the tool, operating specifics, licensing information)
- Information about pathways (e.g. specific input file format and specific output file format or a specific technical (target) environment(s) for rendering a digital object)

- An evaluation of pathways of a tool, based on Experiments that have been run on the Planets Testbed
- Information on whether or not the tool can be invoked as a service within the Planets network or whether the tool is downloadable.

The purpose of the procedures for the Planets PA Registry is to provide a quality standard for the registered PA tools and pathways.

B.1.2 Suggest New Preservation Action Tool

Any Planets participant can suggest a new preservation action tool. They should notify the Preservation Action Registry Administrator about their suggestion to register a new PA tool with the PA Registry. The PA Registry Administrator will send two forms to the requester. One form contains all criteria of a suggested new PA tool that should be filled in. The other form contains all criteria of a pathway containing the suggested new PA tool that should be filled in. See Quality of Tools and Quality of Pathways for an overview of the form criteria.

The requester should complete both forms with specific information about the suggested new PA tool and a minimum of one accompanying pathway. The requester should check whether all mandatory PA tool and pathway criteria are filled in and send the forms back to the PA Registry Administrator. The PA Registry Administrator also checks if all required form criteria have been filled in.

If the forms contain all required information about the suggested new PA tool and accompanying pathway(s), the Registry Administrator adds the information about the PA tool and pathway(s) to the registry. After adding the PA tool information, the Registry Administrator notifies the requester that the suggested PA tool and accompanying pathway(s) have been registered with the PA registry and are available for Experiments. It is the responsibility of the Planets participant that wants to add the PA tool to the PA registry to test the tool and pathway registration with the PA registry. See item B.1.9 Period of Testing.

B.1.3 Suggest New Pathway

When a new PA tool is suggested for registration, automatically a minimum of one new pathway will be suggested. Also a new pathway can be suggested for a registered PA tool with the PA Registry.

Any Planets participant can suggest a new pathway for a registered PA tool. They should notify the PA Registry Administrator of the request to add a new pathway to the PA Registry. The PA Registry Administrator will send a form to the requester that contains all criteria about a suggested new pathway that are necessary for registration.

If the suggested new pathway meets all required criteria, the Registry Administrator adds the information about the pathway to the registry. After adding the pathway information, the Registry Administrator notifies the requester that the suggested pathway has been registered with the PA Registry and is available for testing. It is the responsibility of the Planets participant that wants to register the pathway with the PA Registry to test the pathway addition to the PA Registry. See item B.1.9 Period of Testing.

B.1.4 Scope

All software that either transforms a digital object or recreates the technical environment to render that object or which is a combination of these two is within the scope of the Planets PA Registry. For each suggested new PA tool a minimum of one accompanying pathway will be stored in the PA Registry as well.

It is not possible to suggest a new pathway that is not related to a suggested new PA tool or to a registered PA tool. It is also not possible to suggest a new PA tool to the PA Registry without at least one accompanying pathway.

B.1.5 Quality of Tools

Each suggested new PA Tool should have been tested for at least one specific usage (pathway) of the PA tool using the Planets Testbed. This Testbed Experiment is focussed on what functionality the tool offers. It is assumed that program tests (does a software program work?) have been run by the developers of the software. For a tool for objects this means the PA tool should have been tested for one specific input file format and version and one specific output file format and version. A tool for environments should have been tested for one specific input file format and version and one specific target technical environment to render the file.

All suggested new tools for objects should have been tested on the Planets Testbed. The Testbed Experiment should include an evaluation of the tested tool. Preferably, also all suggested new tools for environments should have been tested on the Planets Testbed.

The criteria in the PA tool registration form for the registry can be found in Appendix A PA Tool Registration Form Criteria in the stand alone version of the Procedures for Registration of Preservation Action Tools and Pathways with the PA Registry available on the Wiki[10].

B.1.6 Quality of Pathways

Each suggested new pathway – a specific usage of a PA tool - should have been tested. All suggested new pathways for tools for objects should have been tested at least once on the Planets Testbed. The Testbed Experiment results should include an evaluation of the pathway.

The criteria in the pathway registration form for the registry can be found in Appendix B Pathway Registration Form Criteria (See [10]).

B.1.7 Iterations, Updates and Review

During the project the process for suggesting and adding new PA tools and pathways is ongoing. There may also be times when registered PA tool and / or pathway information needs updating or changing.

Any participant in Planets can suggest modifications for descriptions of registered PA tools and / or pathways. They should notify the PA Registry Administrator of the request to modify PA tool and / or pathway information. The PA Registry Administrator will send a PA tool registration form and / or a pathway registration form to the requester. The name of the registered PA tool and / or pathway, the registered version, release date and publisher/owner should be filled in. Apart from these items, only the form fields for the criteria that need to be modified should be filled in. The participant sends the completed form to the PA Registry Administrator.

The PA Registry Administrator then checks whether the participant that has suggested the PA tool and / or pathway for registration at the PA Registry in the first place agrees with the suggested modifications. If this participant agrees or if he / she has suggested the changes himself / herself, the PA Registry Administrator executes the requested modifications to the PA tool and / or pathway. If no agreement is reached between the modification requester and the participant that has suggested the PA tool for registration, the PA registry Administrator forwards the suggested modification to the Modification Committee. This Committee will then decide on whether the modification should be executed or not. The Modification Committee will notify the PA Registry Administrator of their decision after the consideration time frame of two weeks has ended. The PA Registry Administrator will notify both the modification requester and the participant that has

[10] http://www.planets.arts.gla.ac.uk/private/pages/wiki/index.php/Procedures

suggested the PA tool and / or pathway for registration at the PA Registry of the Committee's decision.

If the modifications will be done, similar procedures as for suggesting a new PA tool and / or pathway could be followed from here on. The PA Registry Administrator notifies the requester of the modifications that all requested changes have been implemented. The participant that has requested the modifications should test whether all requested changes have been implemented. See item Period of Testing for the period of testing.

All information about a new suggested PA tool and / or pathway should be checked and tested at the time of suggesting a new PA tool and / or pathway to the PA registry. Therefore modifications in descriptions of PA Tools and / or pathways should be unusual.

New versions of a PA tool (updating) can be registered by following the procedures for Suggest New Preservation Action Tool. The participant that suggests a new version of a registered PA Tool completes both forms and indicates on the PA tool form that the request concerns a new version of a registered PA tool. From here on the procedures for Suggest New Preservation Action Tool can be followed. Similar to a new suggested PA tool, a new version of a registered PA tool will have to be tested on the Planets Testbed for a minimum of one pathway before it can be registered.

B.1.8 Population

Following the processes above, the PA Registry Administrator would register suggested new PA tools and accompanying pathways or suggested new pathways with the PA registry. The Planets participant that suggests the PA tool and / or pathways will provide the information needed to add the PA tool and pathways. The Planets participant fills out the registration forms for all relevant information.

B.1.9 Period of Testing

The period of testing by the Planets participant that suggested the new PA tool or new pathway is two weeks. During the test, the participant tests whether the new registered PA tool and accompanying pathway(s) or new registered pathway can be found in the registry after search queries and whether the invocation (web service) or download (non web service) links are working.

The Planets participant notifies the PA Registry Administrator of the test results after the period of testing. The addition of a new PA tool and its accompanying pathway(s) or new pathway will be finalised, if the results are positive. The Planets participant will liaise with the PA Registry Administrator about possible solutions, if the test results are negative.

B.1.10 Maintenance

The PA Registry Administrator would be responsible for any populating activities not covered by the above procedures and would also take responsibility for the ongoing maintenance and procedural aspects involved with establishing the PA Registry as set out below.

B.2 Key Roles in Populating the Planets PA Registry

B.2.1 The Role of PA Registry Administrator

The person in the role of PA Registry Administrator would be responsible for both the population and maintenance aspects of the PA Registry, as set out above.

There would need to be a second person nominated to fulfil PA Registry tasks when the primary PA Registry Administrator is ill, on holiday or otherwise absent from the office (see Issues section below).

To summarise, the person undertaking the PA Registry Administrator role would need to:

- Make the necessary changes to put the new procedures in place, including:
    - Set up a link from the PA Registry homepage to a PA Registry Page setting out clear instructions about populating the PA Registry when the PA Registry has been developed;
    - Compose an initial email to all Planets participants, informing them that PA Registry procedures have been put in place when the PA Registry has been developed, (see issues below as to who should send out this email);

- Send out registration forms for a new PA tool and / or pathway when notified by any Planets participant wanting to register a PA tool and / or pathway(s);
- Notify the participant that has originally suggested a registered PA tool and / or pathway(s) of requested modifications to the description of the registered PA tool if the modifications are not requested by that same participant;
- Notify participants that suggest to register the same new PA tool and / or pathway(s);
- Register a new suggested PA tool and / or pathway(s) to the PA Registry when the PA tool and / or pathway(s) are conform the registration criteria;
- Modify information on a registered PA tool and / or pathway if the suggested modifications have been approved by the participant that originally has registered the PA tool and / or pathway concerned or if the Modification Committee agrees with suggested modifications;
- Forward details of suggested modifications in dispute to Modification Committee;
- Notify both participants that dispute suggested modifications about the decision of the Modification Committee;
- Possibly send out refresher emails to remind people of the ongoing PA Registry project (see issues below as to public relation tasks);
- Undertake any additional tasks that become apparent during the set up, development and ongoing maintenance of the PA Registry.

B.2.2 The Role of Modification Committee

This should be a standing committee made up of two or three members of the Scientific Board (see Issues below), whose role it is to act as a last line of decision-making in cases where consensus cannot be reached on suggested modifications on the description of a registered PA tool and / or pathway. On receipt of email details about disputed modifications they would need to:

- Liaise with other Modification Committee members in order to decide whether or not the modifications are an improvement of the current PA tool and / or pathway description;
- Communicate this finalised decision to the PA Registry Administrator. The maximum time frame for a decision on a modification is two weeks.